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ABSTRACT

Agriculture and the rural economic bases in mining, fisheries, forestry, and natural resource extraction are experiencing major social and economic changes. The farm and rural crises of the 1980s are not short-term aberrations, but symptoms of long-term trends that were partially hidden by the relatively good times for agriculture and rural areas in the 1970s. The social and economic bases of rural America are at risk of permanent alteration or loss. Decisions are being made everyday that affect the viability of rural America as a place to work and live. These decisions are being made without adequate knowledge of the social and economic processes affecting agriculture and rural communities. A better understanding of these processes is necessary to maintain and improve life in rural America, to increase income, and to secure jobs for the future. Acquiring the necessary knowledge calls for a major research initiative on the complex relationships between agriculture, the rural economy, rural families, and rural communities. The Task Force on Agriculture and Community Viability has designed a research program to provide rural residents and private and public leaders with the information needed to develop public policies for viable systems of agriculture and support for rural Americans. This guide outlines the issues and related questions and research agenda of the program. Also included are the interagency connections for research support, research resources, and implementation procedures. This document contains 43 references. (ALL)

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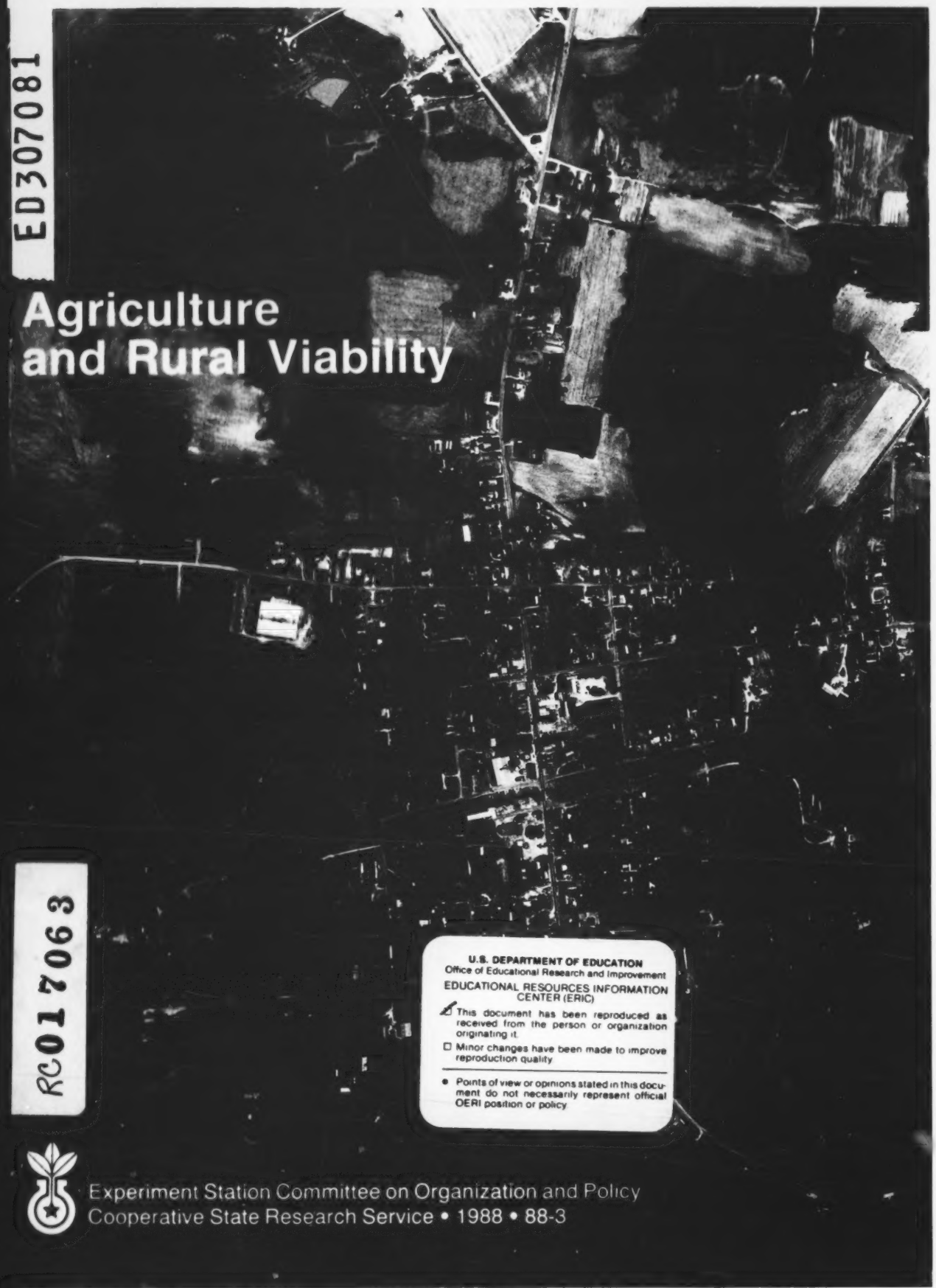

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Agriculture and Rural Viability

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Initial drafts of various chapters were coordinated by Task Force members Rex Cambell, Gene Summers, Ron Wimberley, Russ Youmans, and Jim Zuiches. After these drafts were discussed and suggestions were made by the Task Force, the editing and writing of later drafts was by Ron Wimberley with special reviews by Dick Stuby and Jim Zuiches.

The preparation of this Report also has benefited from the assistance of the many colleagues listed below. They have provided information and counsel, drafted statements, and reviewed drafts. We appreciate their contributions, but relieve them of responsibility for the content of the Report. No doubt there are others who have also made contributions, but who have been inadvertently omitted from this list. We certainly wish to thank them as well.

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Contents

Executive Summary v

1. A Time of Transition 1

2. A Program of Research 9

   Agriculture and the Rural Economy
   Agriculture and Rural Families
   Agriculture and Rural Communities

3. Linking Research and Extension 16

4. Inter-Agency Connections for Research Support 18

5. Research Resources 21

6. Implementation 24

References 27

Executive Summary

We live in a time when agriculture and the rural economic bases in mining, fisheries, forestry, and natural resource extraction are experiencing major social and economic changes. The farm and rural crises of the 1980s are not short-term aberrations, but symptoms of long-term trends that were partially hidden by the relatively good times for agriculture and rural areas in the 1970s. Indicators of these trends include:

- shifts toward global markets with fluctuating exports and losses of industries and jobs;
- changes in population that have led to loss of political influence;
- decreases in federal support for rural counties and communities;
- losses of farms, banks, businesses, and community tax bases that cause financial stress in many rural areas; and
- rising levels of family stress with consequent social, psychological, and marital disruptions.

As a result of these changes, the social and economic bases of rural America are at risk of permanent alteration or loss. Everyday, decisions are being made that affect the viability of rural America as a place to work and live. Unfortunately, they are being made without adequate knowledge of the social and economic processes affecting agriculture and rural communities. A much better understanding of these processes is necessary to maintain and improve life in rural America, to increase income, and to secure jobs for the future.

Farmers, citizens, community leaders, and local, state, and federal officials know that they need this information. They are asking questions about the future of rural America, its agriculture, its natural resources, and its communities and people. Finding answers to these questions calls for a major research initiative on the complex relationships among agriculture, the rural economy, rural families, and rural communities.

The Task Force on Agriculture and Community Viability has designed a research program to provide rural residents and private and public leaders with the information needed to develop public policies for viable systems of agriculture and support for rural Americans.

The research programs within the State Agricultural Experiment Stations (SAES) relating to family, community, economic development, and structure of agriculture receive less than three percent of the Cooperative State Research Service (CSRS)

research budget. This is inadequate to support the collaborative, multidisciplinary effort needed to answer the questions now being posed.

The research initiative of the Task Force represents a restructuring of social science research on rural communities, families, and the economy. The Task Force recommends:

- an increase in Hatch formula funds to address specific state and regional issues;
- establishment of a research grants program to focus social science research on agricultural and rural interdependencies; and
- appropriation of funds for disseminating research results through the Extension Service to address problems now confronting rural America.

Research Questions: Agriculture and the Rural Economy

1. How many more farmers will have to leave farming?
2. How can we maintain and develop new jobs in rural America?
3. What do biotechnology, robots, computers, telecommunications, and other emerging technologies mean for the future of agriculture and rural communities?
4. What are some profitable new enterprises using natural resources?

Research Agenda:

- Determine the likely social and economic impacts of technical developments in biotechnology, food processing, and information systems on farm structure, community characteristics, and the well-being of individuals and farm households. How will these changes affect the number of farmers, the availability of jobs, and the viability of rural areas?
- Identify the probable impacts of deregulation, monetary and fiscal policies, public sector investment, commodity support programs, international competition, and human resource investments on agriculture and the rural economy. How do these policies inhibit or advance rural areas in the national economy?
- Identify new industries, products, and natural resource technologies that may compete in domestic and world markets. What are the potential impacts of specific economic initiatives and public policies?

Research Questions: Agriculture and Rural Families

1. How can we help individuals and families who must leave farming or rural areas?

2. What stresses do farm and business failures place on families and communities? And what are the best ways to help?

Research Agenda:

- Identify on- and off-farm job opportunities, assess rural labor markets, and determine the impacts of off-farm work on agricultural activities. How can these options increase rural family incomes?

- Determine the relationship of economic, social, and technological changes with the physical and emotional health of rural residents. How can change-related stress be reduced?

- Identify strategies that families can use to manage economic, social, and technological changes. How can families effectively cope?

- Determine the consequences of displaced farm operators for agriculture, families, and communities. What problems should be targeted and what are effective assistance programs?

Research Questions: Agriculture and Rural Communities

1. What makes our rural communities viable? What causes them to fail?

2. Who will provide leadership in rural America for the future?

3. How can local governments finance public services?

4. How can we maintain a sense of community in rural areas with all these changes?

Research Agenda:

- Determine the effects of population change and labor market shifts on the abilities of rural communities to finance and provide services. How do social and economic changes affect local services?

- Assess the relationships between fiscal capacity, organizational mechanisms, state/local/federal programs, and the ability of local government to provide appropriate public services. What are the options for improving services?

- Identify key institutional and management capacities necessary for community leadership to function effectively. What strategic linkages can leaders make within communities and to external resources?

- Identify specific needs for rural infrastructure development in transportation, communication, and other support systems. What will the presence or absence of such infrastructure mean to rural communities?

The Course of Action

Agricultural technology has changed; agricultural structure has changed; and the economy of agricultural and rural production has changed. Such changes are known to have continuing social and economic impacts that affect the lives of farmers, rural families, our rural communities, and citizens of our nation.

The research initiative on agriculture and rural viability offers a new program of research that will be the first major effort to understand the ongoing effects of the transformation of agriculture and rural America.

Funding of this agenda will strengthen current research capacity and stimulate needed new research. A three-year plan is proposed to phase in permanent increases in Hatch formula and Evans-Allen funds, research grant programs, and Extension education programs to carry research findings to the people who can use them.

Table 1. Funding Required for the Agricultural and Community Viability Research Initiative ($ Millions)

Specific Funding Sources:	Year 1	Year 2	Year 3
A. Hatch Formula Funds	$8.5	$12.0	$16.0
B. Research Grants*	$28.0	$36.0	$44.0
C. Cooperative Extension Programs	$1.5	$3.0	$4.0
Totals	$38.0	$51.0	$64.0

* (PL 89-106, Competitive and Special Grants)

1. A Time of Transition

> *Agriculture, and hence rural America, is in the midst of a profound transition. I refer here to trends that have been underway for more than a century, accelerated in recent years.... The change is gradual and is by no means complete. We are so close to it that we lack the perspective needed to perceive what is happening* (Don Paarlberg, 1986: 9).

> *While growth and economic vitality were the dominant rural themes in the 1970s, structural change and economic dislocation have become overriding rural issues in the 1980's.... Downturns in several industries important to rural areas...coincided, turning what would normally be local or regional problems into a widespread rural decline of national proportions* (Economic Research Service, 1987: v).

The farm and rural crises of the 1980s have accentuated long-term trends partially hidden by the relatively good times for agriculture and rural areas in the 1970s. Changes in agriculture, forestry, and other natural resources have created problems for the rural economy, families, and communities. Together, these trends represent some fundamental transitions taking place in agriculture and rural areas of the United States.

- More people are living in rural areas, but fewer of them are farm residents;
- Federal support for rural counties and communities has decreased;
- Shifts toward global markets and fluctuations of U.S. exports have resulted in losses of local jobs and industries;
- Losses of farms, closings of rural businesses, failures of rural banks, and declines in community tax bases have caused financial stress in rural areas;
- The stress of change and failure has caused social, psychological, and marital disruptions.

These transitions have special significance for farm and rural people, but are also important to the larger society which is vitally dependent upon rural production. Likewise, they have special significance to research, extension, and instructional programs in the land-grant institutions which are formulated to serve farm and rural people.

Farmers, citizens, and community leaders, as well as state and local officials, are asking questions about agriculture and the viability of rural America. They raise questions for which answers will require the research outlined here. The same types of questions are being considered by groups such as the regional governors' associations;

the Council of State Governments; the National Association of Counties; the National Association of Towns and Townships; and the League of Cities. People ask:

1. How many more farmers will have to leave farming?

2. How can we maintain and develop new jobs in rural America?

3. What do biotechnology, robots, computers, telecommunications, and other emerging technologies mean for the future of agriculture and rural communities?

4. What are some profitable new enterprises using natural resources?

5. How can we help individuals and families who must leave farming or rural areas?

6. What stresses do farm and business failures place on families and communities? And what are the best ways to help?

7. What makes our rural communities viable? What causes them to fail?

8. Who will provide leadership in rural America for the future?

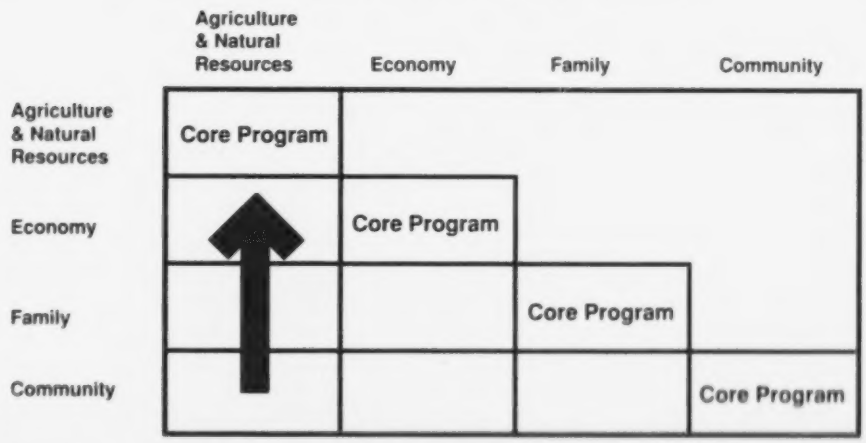
9. How can local governments finance public services?

10. How can rural areas undergoing all these changes maintain a sense of community?

Answers to these questions require a new research agenda to create new knowledge and to guide effective policies.

Therefore, the Task Force recommends a research initiative to complement existing efforts of the State Agricultural Experiment Stations (SAES). This research program will provide new information about the interdependence of agriculture, forestry, and natural resources with rural people and their well-being. Historically, the SAES have conducted research in four domains: agriculture, including forestry and natural resources; the rural economy; rural families; and rural communities. When cross-classified, these domains yield a matrix of research emphases (Figure 1).

Figure1. Interdependencies Among Research Programs in Agriculture and Natural Resources, Rural Economy, Families, and Communities



The diagonal cells of the matrix represent the core research programs supported through state and formula funding. Only occasionally has research been supported for topics in the off-diagonal cells representing the intersections of core research programs with each other. These are the critical research junctures today.

The research program developed by the Task Force focuses on agriculture, forestry, and natural resources in the off-diagonal cells of the first column, or vector, of the matrix. In it, agriculture, forestry, and natural resources are embedded with the rural economy, rural families, and rural communities. This vector of rural viability defines the scope of the new research.

Research on agriculture and rural viability requires a collaborative effort not easily accomplished through customary scientific disciplines and their funding. Traditional disciplinary boundaries must be bridged if the new knowledge is to be gained.

The needed research would provide information to farmers and other citizens; to private and public sector leaders; and to administrators, scientists, and extension faculties of the land-grant institutions. The research knowledge can be applied to policies and decisions to develop viable rural communities and economies, to develop robust systems of agriculture, and to strengthen rural families.

We live in a time when agriculture and the rural economic bases in mining, fisheries, forestry, and natural resource extraction are experiencing major social and economic changes. Indeed, rural America's ability to retain its economic and social bases is at serious risk unless research, policy, and application programs are developed to guide this transformation in a deliberate manner.

Decisions are being made that affect the viability of rural America as a place to work and live. To maintain and improve life in rural America, to increase income and to

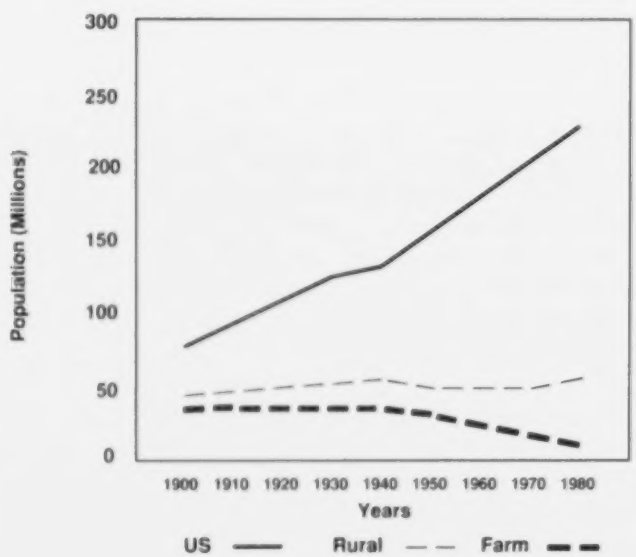
secure jobs for the future, it is essential that such decisions draw upon a better understanding of the social and economic processes affecting agriculture and rural viability. Rural America can either move forward on an informed base of social scientific research or suffer rapid setbacks in advances already achieved.

Several long-term trends underlie the current transition of agriculture and rural America.

1. Shifts in rural and farm populations. Although the dramatic growth of the U.S. population during this century is widely recognized, the fact that the number of people in rural areas is also at an all time high is not so well known. Over 60 million people —1 of every 4—live in rural areas. On the other hand, the number of rural people who actually reside on farms—6 million—is at the lowest point ever recorded.

Disparities among the sizes of the U.S. population, the rural population, and the farm population have grown wider and wider (Figure 2). In the 1940s, there was just one rural nonfarm person for each farm resident. Now, the ratio of 10 to 1 heavily favors the rural nonfarm population and farm residents are outnumbered in the general U.S. population by over 40 to 1. Rural and urban populations were balanced around 1920 but, despite the record numbers of over 60 million rural citizens today, urban people now outnumber the rural by a margin of more than 3 to 1 (Wimberley, 1986; 1987).

Figure 2. US, Rural, and Rural Farm Populations: 1900-1980



Source: census reports (see Wimberley, 1986).

These shifts have not occurred smoothly. While metropolitan and suburban areas gained population during the 1950s and 1960s, population growth in nonmetro areas reversed a long-standing trend in the 1970s and exceeded metro rates in all regions except the South (Zuiches and Brown, 1978).

Now, the population turnaround which promised a renewal for rural America a decade ago is reversing again (Richter, 1985; Engels, 1986; Beale and Fuguitt, 1986). Such declines are particularly evident in counties that depend upon farming, mining, and other natural resource activities (Murdock *et al.*, 1987).

The relative and absolute changes in these trends indicate shifts in the role of agriculture and rural activities. If such trends continue, as some have since early this century, many of the farmers and rural people surviving the current crisis will have escaped only to qualify as victims of further agricultural and rural disruption.

2. Agricultural and rural interdependence. The interdependence of agriculture with rural economic, family, and community conditions already has been the topic of some preliminary research. A cooperative Hatch and experiment station regional project involving researchers from several disciplines and regions has taken a first national look at how agricultural structure connects with various rural conditions.

These researchers found that, over time, large family farm structure contributes to higher family incomes, less family poverty, and less unemployment. Corporate-commercial farming shows little relation to socioeconomic well-being. And, although small farm structure may serve to prevent economic circumstances from becoming worse, it is associated with poorer conditions (Reif, 1987).

The beneficial socioeconomic effects of the large family farm structure compare favorably with those of industrial, transportation, and wholesaling employment. Unfortunately, it is this type of farm structure that appears to have taken the brunt of the 1980s' farm crisis. By implication, declines in large family farm areas can be expected to result in deteriorated economic and social conditions in such areas.

The economic and social conditions of agricultural producers give further evidence of need for the research initiative advanced here. By the end of 1985, 10 to 15 percent of all farmers had debt-to-asset ratios exceeding 40 percent. In the Great Plains (Leistritz *et al.*, 1986), the South (Murdock *et al.*, 1985), and in the Midwest (Bultena, 1986), more than 20 percent of the producers carried such debts. Such debt levels are difficult to manage (Economic Research Service, 1986) and often force people out of farming.

Although the loss of farms is not new, evidence is beginning to accumulate suggesting that the present decline in farm numbers differs dramatically from earlier eras (Lee, 1986; Otto, 1986). Previously, those who left farming tended to be either young farmers who left to pursue other careers or marginal producers who could not compete economically and technologically. But those currently displaced from agriculture are often mid-career adults who are some of the best and most innovative producers (Heffernan and Heffernan, 1985; Murdock *et al.*, 1986).

3. Jobs in other rural resources. Waning incomes in rural areas result, in part, from long-term agricultural declines. Other rural residents, however, face similar problems. The gap in per capita income between nonmetropolitan and metropolitan people is widening.

For many rural areas, the difficulties are compounded by market shrinkage for other natural resource products (Miller and Bluestone, 1987). Lumber, hardware, furniture, and farm implement businesses show substantial incidences of failure in rural areas

since 1980 (Johansen and Fuguitt, 1987). The mining industry has suffered declines as well (U.S. Bureau of Economic Analysis, 1984).

Many rural manufacturing jobs are in the low-wage, blue-collar, labor-intensive industries—including apparel, textiles, and leather goods—which have suffered substantial domestic market losses to foreign imports. This adds to the economic difficulties of rural areas and their people.

However, service industries now employ more rural workers than manufacturing. More jobs have been created in services than were lost in manufacturing and resource-based industries (U.S. Bureau of the Census, 1965; 1980). Since the late 1960s, 83 percent of the job growth in rural areas has been in services and this trend accelerated in the 1970s.[1]

Growth in the service sector appears more closely tied to basic production industries in rural America than in metropolitan areas. Therefore, continued declines in agriculture, manufacturing, and mining in rural areas may have negative effects on its service sector growth (Miller and Bluestone, 1987). Judging from such patterns of rural employment, rural America as a whole is undergoing fundamental adjustments that promise to alter, forever, rural life in the United States.

Rural areas have recovered from the recession more slowly than metro areas. In fact, the nonmetro unemployment rate actually increased between 1984 and 1985, while the metro rate declined. Most of this difference is explained by the poor performance of the nonmetro manufacturing sector which lost 450,000 jobs in the recession and regained only about 20,000 jobs during the beginning of the recovery between 1982 and 1983 (Brown and Deavers, 1987).

4. Rural well-being. Fallout from adjustments to the declining rural economy is also clearly evident in an array of personal and family problems in rural U.S. households. Analyses of the rural economic crisis suggest that an increased rate of social, psychological, and emotional problems—for example, marital discord, spouse abuse, and depression—strike both farm producers (Heffernan and Heffernan, 1986; Albrecht *et al.*, 1987) and other residents of declining rural communities (Murdock *et al.*, 1987). Many of these needs are going unattended because of the inadequate level of service programs in rural parts of the United States.

5. Infrastructure and information. As information technologies become increasingly important for agriculture and other rural industries, rural America may be unable to use them because of deficiencies in its infrastructure. For example, rural telephone service has a greater proportion of party lines, less digital switching, less trunkline capacity, poorer line quality, less optic fiber, fewer computers, and fewer of the other advanced information technologies.

[1] This paragraph and several others noted by the same reference were contributed from a manuscript by David Brown and Kenneth Deavers (1987). Please see their report for further information.

Problems also persist in rural transportation systems (Sullivan and Reid, 1986). Many agricultural and rural service roads are not supported by the federal system but need improvements. As many as one-fifth of the bridges—without which good roads are of limited use— are in need of improvement or replacemnet.

6. Changes in federal government. During the 1960s and 1970s, state and federal involvement in the affairs of local government grew. By 1977, intergovernmental transfers represented 43 percent of revenues of rural localities as compared to 34 percent in 1962 (U.S. Bureau of the Census, 1965; 1980).

Now, the range of federal actions affecting rural areas—and the policy latitude of state and local governments—have changed substantially. Federal funding has been withdrawn or reduced for many grant-in-aid programs, block grant programs, and Revenue Sharing. In part, these changes represent a philosophical retrenchment by the federal government and, in part, a policy to reduce federal deficits while maintaining defense and major entitlement programs. This is a challenging environment in which state and local governments find it difficult to replace federal funds with local revenues (Stinson, 1986).

The importance of international trade has increased the stake of rural areas in macroeconomic trade policies. Many jobs in low-wage rural manufacturing are vulnerable to foreign competition. Compared to the federal government, states and localities are severely limited in policy responses to deal with industrial restructuring and trade (Brown and Deavers, 1987).

Calls for Research

Major difficulties are faced in developing policies and programs to help farmers and other rural people adjust to economic problems in rural areas. The difficulty is that so little is known regarding agricultural and natural resource economies and their interdependence with community viability and family well-being. Existing information is inadequate to answer many of the basic questions being asked, and a number of national policy and research advisory organizations have requested an expansion of research and database capacity on rural America.

The Office of Technology Assessment calls for research to assess the impacts of new technologies on rural communities and the farm sector of the rural economy (*Technology, Public Policy, and the Changing Structure of American Agriculture* Office of Technology Assessment, 1985).

The Joint Economic Committee of Congress states that both new and expanded research and extension efforts from land-grant universities are needed to determine the causes and impacts of social and economic conditions in rural America (*New Dimensions in Rural Policy: Building Upon Our Heritage*, Joint Economic Committee, 1986).

The Joint Council on Food and Agricultural Sciences calls for research on four areas of community and rural development: (a) rural economy, (b) rural institutions and governance, (c) rural infrastructure, and (d) natural and environmental resources (*Report to the Secretary of Agriculture*, Joint Council of Food and Agricultural Sciences, 1986:76-79).

The USDA's National Agricultural Research and Extension Users Advisory Board encourages the USDA, experiment stations, land-grant universities, and other research agencies to coordinate information gathering on the rural economic base, educational system, social services, and other government services, as well as employment opportunities and other rural conditions (*Report to the President and the Congress*, National Agricultural Research and Extension Users Advisory Board, 1987).

The Extension Committee on Organization and Policy (ECOP) lists rural revitalization as a priority program effort for FY 1988 to 1991. The opening statement of the ECOP Task Force Report, *Revitalizing Rural America* (1986), says "The survival of rural America, both the farms and smaller communities, is dependent upon the expansion of income and employment opportunities in rural areas."

The Social Science Agricultural Agenda Project (SSAAP), supported by an array of public and private groups, seeks to establish research priorities for natural and community resources. SSAAP also attempts to relate these priority research areas to the basic social science disciplines (Schaller, 1987).

Objectives

In order to achieve the general purpose of this research initiative, the research program attempts to accomplish at least the following objectives.

1. Evaluate the emerging conditions in rural areas of each state.
2. Determine the directions and persistence of trends in agriculture, rural families, rural communities, and the rural economy.
3. Assess the impacts of the structure of agriculture on local economies.
4. Identify community and economic development opportunities.
5. Develop more effective systems of stress management for farm and rural families.
6. Develop and evaluate methods of assisting displaced farm and rural families.
7. Evaluate and improve systems for public services in rural areas.
8. Assess the impacts of national farm and nonfarm policy on rural communities.

The next chapter describes a research program which addresses these objectives.

2. A PROGRAM OF RESEARCH

> *As we approach the conclusion of this century, we find increasing evidence that a strong agriculture depends on a strong rural community, and vice versa.... The interrelationships among farming, rural governments, and the business and service sectors of rural communities are critical to the economic and social health of rural America and our society in general* (Richard J. Sauer, 1985: 113).
>
> *Research is needed on the causes and impacts of social and economic conditions in rural America. Established and new systems for research and extension of information to rural and farming areas must be expanded* (Senator James Abdnor, 1986:5).

Within the general framework for developing an information base, three primary research areas constitute the proposed program. These are (A) agriculture and the rural economy, (B) agriculture and rural families, and (C) agriculture and rural communities. The research program represented by these areas goes beyond the base programs of state agricultural experiment stations and addresses the intersections of agriculture, forestry, and other natural resources with base programs in the rural economy, families, and communities.

A. AGRICULTURE AND THE RURAL ECONOMY

1. Structural Changes in Agriculture and Local Economies

The structure of agriculture is both a cause and consequence of changes in social, economic, and technological conditions. The long-term and immediate problems in agriculture are likely to lead to significant reorganization of farm enterprises with further changes in the number of farms, the control of farmland, farm size, and other major structural features.

Research to determine the magnitude of such adjustments is a first step for understanding the implications of population change, on the well-being of farm communities and their capacity to provide public services. Research to determine what causes structural changes in agriculture is also needed. The influence that agencies and organizations exert on the credit, labor resources, energy resources, information and technology, and transportation is not clearly understood.

- Identify the extent of adjustments required in local economies due to changes in the structure of agriculture.

- Assess the impacts of changes in agricultural structure on population change, patterns of land use, and community structure and well-being.

- Assess the impact of changes in agricultural structure on the career commitment and well-being of individuals and farm households.

- Assess the impacts that local variations in social, economic, and institutional factors have on agricultural structure.

- Assess the effects of changes in population, cultural and ethnic traditions, patterns of land use, and community structure on the structure of agriculture.

- Determine the impact of biotechnology and other emerging technologies in food processing and communications on the structure of agriculture.

2. Macro Policy Effects on Agriculture and the Rural Economy

Aggregate levels of production exceed world consumption for many commodities—including several produced in rural America. These products must be identified and analyzed to determine whether our monetary and fiscal policies, available technologies, management practices, and marketing approaches undermine the competitive position of our rural products in the world. Products need to be identified which have future growth potential and which can be produced at a competitive advantage.

Monetary and fiscal policies play an important role in determining the competitive position of U.S. industry. Tax policies also influence rates of saving, investment, and capital formation and have potentially significant effects on overall employment composition and growth. Rural areas have a major stake in policies to promote rapid rates of real economic growth which help to reduce stresses from structural adjustments. A program of research is urgently needed to assess the impacts of existing macro-policies and to estimate potential effects of new policies.

- Identify the effects of international competition on agricultural commodities, rural industries, and geographic areas.

- Assess the potential of monetary and fiscal policies for agricultural and community development.

- Assess the impacts of tax policies on the potential growth of agriculture and other rural enterprises.

- Assess the impacts of deregulation policies on the future of agriculture and rural economies.

- Estimate the probable impacts of public sector investment policies on agriculture and rural growth.

- Assess the efficiency and feasibility of regional investment policies.

3. Human Resources for Agriculture and the Rural Economy

Human resources are as essential to agriculture and the rural economy as are land, capital, and infrastructure. Local people provide the necessary labor for agriculture and other rural enterprises. They are also important as consumers. Significant changes are taking place in rural populations, but relatively little is known about the economic implications of these changes.

Research is needed to estimate changes in the human resource base of rural communities and to develop models to predict the consequences of human resource changes on agriculture, rural industries, businesses, local government, and other aspects of community structure. Research is also needed to devise and evaluate strategies for developing adequate human resources in rural communities.

- Determine the likely magnitude, characteristics, and locations of population changes affecting the rural economy.
- Determine the impacts of population changes on rural businesses, community services, community organizations, and social patterns.
- Assess alternative human resource investment policies.
- Evaluate strategies for retaining rural populations in areas with declining populations and for providing public and private services.
- Determine the relationship of economic development opportunities with rural demographic structure, health, and illiteracy.

B. AGRICULTURE AND RURAL FAMILIES

1. Agricultural Sources of Rural Family Income

Farm vitality is closely associated with rural economic opportunities. Changes in agricultural technology and markets have forced many farm families to devise new strategies to compete and survive on farms. The allocation of on- and off-farm work, as well as the linkage between household incomes and the community's economy are central to the survival and success of both farm enterprises and the economy of farming areas.

- Evaluate alternatives for enhancing on- and off-farm economic opportunities of farm families.
- Determine the relationship between local labor markets and off-farm employment opportunities for farm household members.

- Determine personal, social, and economic factors affecting the need for off-farm employment and nonfarm income.

- Assess the effects of off-farm work on farm structure and career commitments to farming.

2. Family Stress, Adaptability, and Rural Change

The next decade of rapid change in rural America will require appropriate family-oriented policies and programs. There must be a better understanding of how these changes affect individual health, family stability, and the quality of family life. Large scale national and international changes will require that communities adapt to new economic, social, and institutional conditions. Careful research can plot the trajectories of these changes and help to understand what contributes to stable and viable families.

- Determine the relationship between the social, economic, and technical changes and the physical and emotional health of rural people.

- Determine the impact of rural change on family cohesion, values, priorities, kinship networks, and intergenerational relationships.

- Investigate the influence of social factors and community resources that improve the abilities of persons and families to manage change.

- Investigate the influence of social and economic conditions on family structure, solidarity, stability, values, and traditions.

3. Coping Strategies of Farm and Rural Families

Many rural families depend, either directly or indirectly, on a variety of federal expenditures, including farm commodity programs, government transfer payments, and employment in government agencies. Reductions in such federal expenditures would adversely affect rural households which have limited alternatives.

- Determine the adaptability of families as they attempt to cope with economic, social, and technological changes.

- Identify strategies rural families use to maintain or enhance living standards.

- Determine factors that facilitate or limit particular adaptation strategies.

- Determine the extent to which participation in government programs improves family adaptation.

- Determine the dependence of families on government programs and the likely consequences of changing these programs.

4. Displaced Farm Operators and Farm Families

Thousands of farm operators and their families have been forced to leave their farms as a result of poor economic conditions. Unlike those who have left farming in the past, these operators are often established, mid-career adults. Their adjustment problems are probably more severe than those of past generations. Very little short-term research and no long-term research has been conducted with this group. Although many types of programs have been established to assist them, none has been evaluated. Case studies suggest that displaced farm families increase demands on local human services at a time when community capacity to support services is under heavy stress.

- Determine the short-and long-term consequences that leaving farming has on the operators and their families.

- Evaluate assistance programs for displaced farm families including programs for job retraining, stress management, displaced homemakers, and youth assistance.

- Determine the community impacts that displaced farm operators and their families have on human services, labor markets, educational systems, and local economies.

C. AGRICULTURE AND RURAL COMMUNITIES

1. Local Government and the Rural Economy

The realignment of farming and other basic sectors of the rural economy reduces the ability of rural local governments to finance basic services such as education, public safety, and transportation. Many of these governments operate under constitutional, statutory, and customary arrangements that must be creatively reshaped to accommodate demographic, social, technological, and economic changes. New and heavy demands will be placed on the public management capabilities of state and local policy makers and rural government finances. Sound policy research is needed to guide the development of rural public economies and local government activities.

- Analyze the fiscal capacity of rural local governments and identify options for improving local fiscal systems.

- Assess innovative means for providing public services including education, health, housing, protection, water, and waste systems.

- Investigate the effectiveness of local and state government programs for stimulating rural economic development.

2. Community Capacity to Manage Economic Restructuring

The development of skilled community leadership in rural areas can enhance the ability of local residents to work together to improve community well-being. Especially during a period of rapid social and economic change, community leadership and institutional innovation are needed to stimulate local initiative by involving people in community actions, to build channels of communication among community groups, to coordinate community improvement efforts of public and private organizations and agencies, and to take advantage of newly emerging opportunities for rural development. Research can provide a base of knowledge for planning, implementing, and evaluating strategies for community leadership development and institutional innovation in rural areas.

- Investigate the abilities of rural communities and institutions to deal with changes in their economic and fiscal environments.

- Determine leadership characteristics and management skills that contribute to effective community development programs.

- Study the relationships among interest groups and identify ways to institute efforts that benefit the whole community.

- Identify factors for improving local involvement, developing networks, acquiring outside resources, and initiating community projects.

3. Comprehensive Strategies for Community Economic Development

National, state, and local policies outline strategies for creating economic development opportunities in rural communities. Customary industries, including agriculture, no longer provide a complete economic base in many communities. These communities must also improve the viability of existing firms, capture existing income, encourage new business formation, and make more effective use of available aids from government. But public investments rarely are based on a comprehensive analysis of the opportunities that communities have for development. A research program which refines the conceptual framework and analytical tools for testing the effectiveness of comprehensive development strategies under varying conditions should be of benefit to policy makers as they attempt to improve the well-being of rural communities.

- Identify industries and businesses which may give rural America competitive opportunities in domestic and world markets.

- Identify variables critical to the location and growth of specific industries and businesses in rural America.

- Analyze the impacts of specific industries and businesses on the employment and income of rural America.

- Analyze policy initiatives specific to industries or other income sources that may benefit rural areas.

- Develop measures and data for analyzing the results of economic development efforts.

4. Infrastructure Investment Options for Rural Development

By the end of this century, more than two-thirds of the U.S. labor force may be employed in information, knowledge, and education jobs while less than one-fourth may be employed directly in manufacturing and agriculture. Successful performance of these jobs will require use of computers and advanced telecommunication linkages to locations throughout the United States and the world. Because of the trend towards smaller work organizations and the independence of many of these jobs from a particular locale, it may be possible for rural America to compete for them. However, this competition is possible only if advanced telephone and other telecommunications services are available in rural communities and rural Americans learn to use them.

Sustaining a decentralized rural population which conducts its work by advanced telecommunications requires a viable infrastructure of transportation, health care, education, and housing. While health care and education could improve through the use of telecommunications technology, the telephone systems, transportation systems, and housing must be in place to realize the opportunities.

- Assess deficiencies in rural education, housing, health care, protection, transportation, water, and waste disposal systems.

- Assess the need for improved telecommunications in rural America and the potential for using telecommunications in education and economic development.

- Identify advanced information technology that will help generate enterprise and employment alternatives.

3. Linking Research and Extension

> *A successful revitalization effort will require new resources. But by generating the same type of commitment and energy to revitalizing rural America as it did to increasing agricultural efficiency, the Cooperative Extension System can help rural America realize its potential. Not only can Extension provide the perspective and knowledge necessary to enable rural and nonrural residents to understand how the world has changed, but it can also help rural residents put that education to use in the process of revitalizing rural America, community by community.* (Extension Committee on Organization and Policy, *Revitalizing Rural America*, 1986: 3).

The extension of research scholarship is a challenge to both researchers and those who desire new alternatives and insights. Education and information transfer should be explicit activities and, like research, they need institutional and intellectual support.

National and State Rural Revitalization Initiative

The Cooperative Extension System has identified several high priority initiatives. Four of these initiatives would benefit immediately from the research outlined in this document: competitiveness and profitability of agriculture, increasing family economic and emotional stability, building and developing human capital, and revitalizing rural America.

For the initiative related to revitalizing rural America, an Extension Task Force pinpointed six critical issues (Extension Committee on Organization and Policy, 1986):

1. The economic competitiveness of rural areas is diminishing.
2. Rural communities are dependent on too few sources of income.
3. Service demands on local government and community organization are growing while attendant resources are diminishing.
4. Rural families and communities are having difficulties adjusting to the impacts of political, economic, and social changes.
5. Rural revitalization is dependent upon skilled community leadership.
6. The quality of the natural resource base is critical to revitalizing rural communities.

State and county extension personnel are trying to use existing knowledge to develop educational programs to help revitalize rural America. However, community demands for these types of programs exceed the current ability of extension to respond adequately. The research proposed here should greatly improve the capability and effectiveness of national and state extension efforts.

Regional Rural Development Centers

In the early 1970s, the land-grant institutions established four regional rural development centers. These centers were started to initiate and support research units in conjunction with State Agricultural Experiment Stations in each region. The extension responsibility was quickly added to bring research and extension together formally for regional rural development work.

These Centers continue to coordinate and encourage research and extension work on topics important to agriculture and community viability. They have been able to respond quickly to emerging concerns such as the alternatives available to rural communities and families confronted by dramatic economic changes. The Centers also help to initiate regional and national research efforts by pulling together dispersed research interests and capabilities. Also important is the linkage of research and extension in developing community education programs and in training faculty to deliver research products back to the rural communities.

Point of Departure

Knowledge, however, must be produced before it can be extended. And the research base required for the extension initiatives needs to be developed further if both the research and extension objectives are to be met.

4. Inter-Agency Connections for Research Support

> *Through cooperation and coordination, economic development efforts at all levels—federal, state, and local—can revitalize rural America. We can ill-afford to ignore rural America any longer.* (Senator James Abdnor, 1986: 8).

The search for viable farm and rural policy options has renewed the concerns of many private and public agencies regarding the lack of a systematic research base. The National Governors' Association has noted this need and has begun a survey to answer some of the most immediate questions on the rural situation and to determine the opinions of rural residents toward development. Similarly, the Council of State Governments has started applied research on economic development through its Center for Agriculture and Rural Development. The Southern Growth Policies Board has also made small grants to encourage applied social science research. These worthy efforts have been general in content but cannot provide the detail necessary for policy formation at the local, state, and national levels.

Federal Agencies

At the federal level, a few agencies are considering research initiatives on limited aspects of farm and rural problems. The largest and most advanced effort is a proposed $10 million research and demonstration initiative by the National Institutes of Mental Health (NIMH) for rural social psychological health in farming communities today. The National Association of Counties, Rural Family Issues Coalition, and several national religious organizations support this proposal. Officials in medical schools and other health professionals are voicing concerns about health care in general but none of these have developed formal proposals. In addition, legislation has been introduced to require that 25 percent of the Public Health Service's new research initiative be relevant to rural areas.

Many traditional research programs of federal agencies continue but do not focus on the type of research proposed here. Officials in the Departments of Agriculture, Health and Human Services, Education, and Labor have indicated an awareness of the need for such programs. As yet, however, no department has responded in a formal way. For example, the Department of Housing has raised questions of housing needs in rural areas. Research on rural aging is another well established area but, despite its high quality, it is limited to one specific age group. Still, it provides information complementary to the proposed research.

USDA's Economic Research Service (ERS) conducts social and economic research at the national level and reports information in summary format. One recent ERS

report, *Rural Economic Development in the 1980s*, (1987) reviews much contemporary information on the rural crisis. Altogether, the ERS program in agriculture and rural economics was budgeted at $8.2 million in FY 1987. The research program proposed here would be compatible with such ERS studies.

The National Academy of Sciences is developing a major proposal for research on alternative agriculture which should also include at least some social science research.

Private Agencies

Several major private foundations support programs on rural development issues. One major private agency to address rural concerns is the W. K. Kellogg Foundation. Oriented toward education and application rather than research, this Foundation supports outreach projects on problems of rural people. Since 1965, for example, Kellogg has assisted agricultural and rural leadership development projects with $6 million in 23 states to help prepare young leaders as spokespersons for rural interests. The Foundation also provides support for states to replicate the Family Community Leadership Program.

Kellogg recently renewed its Rural America program which encourages universities to devote more resources to rural people. This is done by emphasizing new arrangements for delivering rural services, stimulating community leadership development, training local officials, and focusing academic efforts on rural issues.

An example of Kellogg's academic focus is a $836,000 grant to the National Rural Studies Committee which is administered through Oregon State University in conjunction with the Western Rural Development Center and Resources for the Future. In this project, an interdisciplinary group is to investigate how rural communities have been affected by social, economic, political, and environmental events. The effort is to provide a basis for identifying rural research and education opportunities.

Furthermore, the Kellogg Foundation has supported efforts to improve rural health care delivery, enrich undergraduate liberal arts curricula with agricultural and food issues, develop agricultural and rural policy alternatives, and assist 4-H and other youth development organizations.

The Farm Foundation is another private, rural-oriented agency of long standing. Its purpose is to improve the level of knowledge of agricultural and rural problems and opportunities faced by agricultural and rural people. To encourage exploration of new research and extension ideas, the Farm Foundation sponsors seminars on the economics and sociology of agriculture and rural areas. Ad hoc groups are supported to explore innovative research areas; initiate regional or national research, extension, or professional interchanges; and to encourage professional participation in research and education efforts. The emphasis of these activities is on new ideas and areas of work, economic and social aspects of agriculture and food policy, commercial agriculture, resource use and conservation, and community development.

Farm Foundation projects normally include individuals from universities or government agencies. Foundation staff members sometimes initiate a particular conference or project. Proceedings from such activities may stimulate research and extension ideas beyond their immediate audience. Many regional research projects have evolved from Farm Foundation Seminars.

A third private agency is the Aspen Institute for Humanistic Studies. The Aspen Institute recently collaborated with the Ford Foundation and the Wye Institute to sponsor the Rural Economic Policy Program. This program attempts to define rural policy research priorities, build a network of those engaged in rural policy studies, organize workshops and seminars on rural policy, and support the publication of studies which may inform rural policy. Last year, the program supported 15 research teams through grants totaling $800,000. These deal with macroeconomic trends, sector trends, public and private rural development, and chronically poor people and places. Along with the Woodrow Wilson Fellowship Foundation, the Aspen Institute now sponsors a Rural Policy Fellowship program for doctoral students.

Clearly, programs from such facilitative and application-oriented foundations would benefit from the research program outlined here.

The State Agricultural Experiment Stations

The State Agricultural Experiment Stations are the principal base for social scientific research on rural problems. While there is some external support for research and application, a centerpiece program for further funding of such research is needed within this scientific and administrative context. In addition to the Extension Service which operates through the land-grant system itself, a wide array of public and private agencies draw upon experiment station research findings for ideas and possible solutions to rural problems.

5. Research Resources

> *The effects of technological, economic, sociological, and environmental developments on the agricultural structure of the United States are strong and continuous. It is critical that emerging agricultural-related technologies, economic changes, and sociological and environmental developments, both national and international, be analyzed on a continuing basis in an interdisciplinary fashion to determine the effect of those forces on the structure of agriculture and to improve agricultural policy decision making* (U.S. Congress, Public Law 99-198, *Food Security Act of 1985*, Title XIV, Sec. 1402B).

A generous estimate is that about three percent of the Hatch research budget goes to study problems considered by this task force. Much of this, however, goes to the core programs for disciplinary areas. Consequently, the fraction of Hatch funds which actually support research on the interdependencies of core areas is much less than three percent.

Research Support

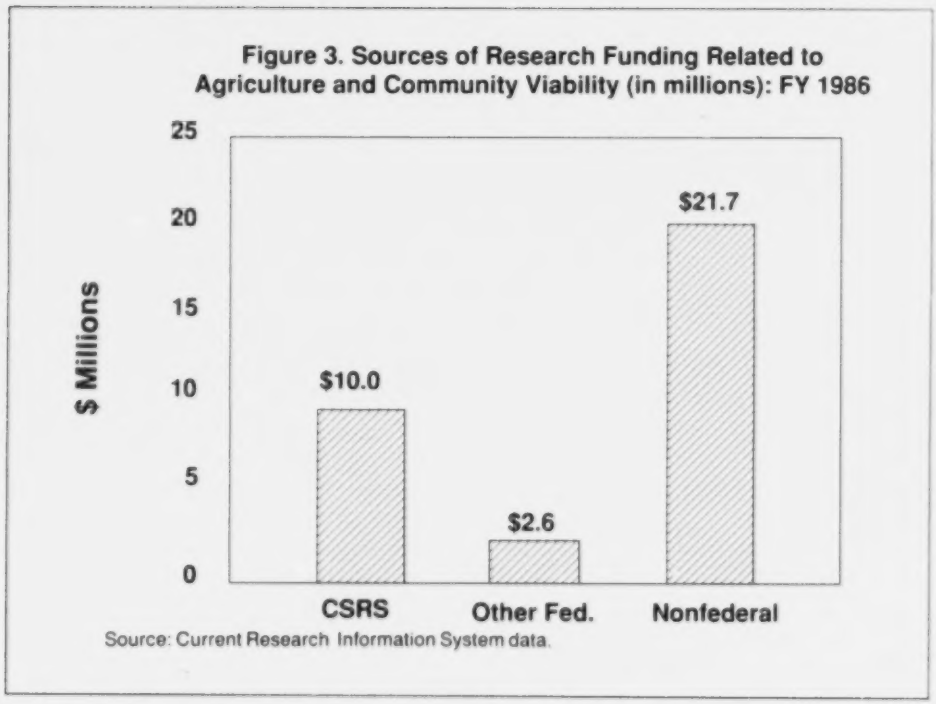
Of the $286.1 million in CSRS-administered funds for FY 1986 (U.S. Congress, 1987), $10.0 million fall into this broadly defined cross-section of research problem areas, research activities, commodities, and fields of science. Such support targets general research goals to "assist rural Americans to improve their level of living" and to "promote community improvement including... development of economic opportunity and public services" (Current Research Information System, 1982: 13).

When the $10.0 million of Hatch funding to State Agricultural Experiment Stations (SAES) is combined with $2.6 million of research funds from other federal sources plus $21.7 million from the nonfederal sources of SAES, this totals $34.3 million.

Although the $10.0 million of Hatch monies overshadows other federal sources for research in agriculture and rural viability, all federal funds are overshadowed by the SAES' nonfederal dollars (Figure 3). Even so, the Scientist Years (SYs) supported by these aggregated funds represent fewer than 1 in 25.

In terms of either funding or SYs, these research resources involve only a small slice of the total program. Especially in light of the social and economic problems of agricultural and rural areas, this share would remain small even if the personnel were doubled or the funding were tripled.

The need for the new type of research program recommended by this Task Force is recognized in the 1985 Farm Bill (U.S. Congress, 1985). Section 1402 of Title XIV on agricultural research, extension, and teaching calls for the analysis of economic,



sociological, technological, and environmental developments which affect agricultural structure and agricultural policy. According to this law, such factors are to be analyzed on a continual basis and in an interdisciplinary fashion. In Section 1407 of this Act, and in regard to the federal-state partnership, the Secretary of Agriculture is asked to support this effort with grants to study factors, including community resource management, which benefit family-type farms. This Farm Bill authorization now needs an appropriation adequate to do the job.

To date, there have been no research grants for rural research of the type made for plants, animals, biotechnology, and nutrition. Furthermore, full-scale efforts to study the interdependencies of agriculture with rural economies, families, and communities will be expensive in comparison to the level of investigations supported by current resources.

Research Data

With current funding levels, scientists studying problems of agriculture and rural viability are limited in the scope of the research they can attempt. Most research attempts are necessarily small and restricted by narrow samples on limited geographic areas. Their results are fragmentary, and it has been difficult to generalize from such work.

Under current funding levels, social scientists can generate little timely primary data to address the issues of agriculture and rural viability. They are limited to census data

or other secondary sources which cannot provide the detail required for many needed research programs and projects. There is a need for information which pre-existing data do not include, for which secondary data are inappropriate, and for which the available data have become obsolete.

The sample of the national Survey of Income and Program Participation (SIPP), for instance, is too sparse to accurately represent rural locations. Detail is lost when vast rural areas are aggregated into meaningless groupings. More importantly, the Bureau of the Census does not update population counts for rural places between the decennial censuses. There are no official figures on the rural population at mid-decade in 1985 for either the states or the nation. Consequently, Census reports such as the one on "Money Income and Poverty Status of Families and Persons in the United States: 1985" (U.S. Bureau of the Census, 1986) do not show recent rural income conditions. And while the Census' Current Population Survey provides some information on places designated as rural during the last decennial census, these data are insufficient for meaningful rural analyses and generalizations.

The lack of rural data becomes particularly critical as rural areas change dramatically between the ten-year censuses and when conditions go undocumented during times of rural and farm crises.

Although the Census of Agriculture collects farm data and reports aggregate summaries on each U.S. county, it does not provide a public use sample of farm household units which scientists can analyze further. Since the problems and changes in individual farms can be quite different from the average of all farms in a county, farm-level data are needed by social scientists. It is also important that social scientists have data on a panel of representative farms so that farm-level changes can be followed over time. This, too, is unavailable from the Census. In addition, there are many types of questions which the federal censuses do not ask regarding the circumstances and outlooks of farm and rural household members.

Therefore, social scientists of agriculture and rural life typically lack meaningful secondary data. They also lack the funding to collect primary data across the nation or by region, state, or locality.

While many studies do collect some primary data with minimal funding, research of the scope needed would involve many sample members across various agricultural and rural locations. Frequently, personal interviews with sample members are required for in-depth knowledge of personal, family, community, or economic conditions. Personal interviews with 1,500 persons, for example, could average $200 or more and total at least $300,000 for data collection on a single project.

But without such data, answers to many research questions on agriculture and rural viability will not be forthcoming and certainly not on the continual basis outlined in the Farm Bill. Even if appropriate data were available, resources are still needed for scientists' time, analysis, interpretation, and the distribution of research results on agricultural and rural issues.

6. Implementation

> *What about the future?... We are faced with the need for a revolution of change to rescue this nation's agriculture.... "We can and must find the answers to these questions, and without delay. We can do it by devoting to these problems the same kind of talent, ability, study and research that we have given to problems of increased production.... I submit that this presents a major challenge to our land-grant colleges, to our experiment stations, to our extension service, and to the Department of Agriculture.... But I submit that we cannot avoid this challenge"* (James B. Kendrick, Jr., 1986: 14-15 quoting Orville L. Freeman, Secretary of Agriculture, 1961).

The research initiative we have proposed is clearly within the scope of the Hatch Act and the authorizing legislation of the 1985 Farm Bill. The proposed agenda restructures the approach of rural social science research on the issues of the rural economy, families and communities. The new agenda amplifies and expands the core program of currently funded research and builds on the current capacity in the SAES system. By stimulating participation from social scientists in many disciplines, this agenda could add to the critical mass of scientific effort addressing these issues.

To accomplish the research agenda outlined here, the Task Force recommends an initial appropriation in the first year of activity of $38 million and increments in successive years of $13 million each to bring the fully funded program to $64 million per year.

Formula Funds

State and regionally specific issues would be addressed with support from increments to the Hatch and Evans-Allen formula funds. This support would increase staffing levels of social scientists at SAES and would increase the operational support for current personnel by adding research assistants, technical support, equipment, and operational expenses for data collection and analysis.

The Hatch Act and Evans-Allen Act funding requested for the first year is $8.5 million, with $6.5 million under the Hatch Act and $2 million under the Evans-Allen Act. This is in keeping with the fiscal 1989 recommendations developed by the Division of Agriculture of the National Association of State Universities and Land-Grant Colleges (NASULGC) Division of Agriculture (1987: 13-14). Beyond FY 89, the Hatch and Evans-Allen support would be increased by $4 million each year to equal $16 million in the third year and stabilize at that level (Table 1).

Table 1. Funding Required for the Agricultural and Community Viability Research Initiative ($ Millions)

Specific Funding Sources:	Year 1	Year 2	Year 3
A. Hatch Formula Funds	$8.5	$12.0	$16.0
B. Research Grants*	$28.0	$36.0	$44.0
C. Cooperative Extension Programs	$1.5	$3.0	$4.0
Totals	$38.0	$51.0	$64.0

* (PL 89-106, Competitive and Special Grants)

Research Grants

Research grants provide an appropriate mechanism for attracting a broad array of social scientists to address these research objectives. A key criterion in funding a project would be the multidisciplinary nature of the project and team. Although single investigator or young investigator projects are possible, the essential element of an integrative research project is that it addresses the interdependencies of agriculture, forestry, or natural resources with the rural economy, communities, or families.

Major data collection efforts need to be undertaken by one or more centers specializing in survey research, database development, and social science problem-solving research. This would permit and encourage social scientists to share data resources and research ideas. Project funding would also include time for the principal investigator, research associates, technical and secretarial support, postdoctoral support, equipment, travel, supplies and services, and indirect costs associated with such projects. Adequate funding is essential for individual projects, team projects, local studies, and national data collection efforts.

Specific funding requested for the first year of this initiative is $28 million in research grants, with $8 million increments per year until $44 million level is achieved (Table 1). Initially, the grants program would fund two to four major data collection efforts at $2 million to $6 million per year. Additionally, it would fund 150 to 175 projects at approximately $150,000 per year. In its 1989 budget request, the Division of Agriculture has already included $2 million for research on family stress resulting from economic and technological changes.

Extending the Research Results

The third major activity involves implementation and transfer of research results to user groups. Already, $15 million of Smith-Lever support for FY 89 and for FY 90 has been recommended by the Division of Agriculture (1987:14) for Extension's Rural Revitalization programs. In addition, the Task Force recommends an additional $1.5 million for dissemination purposes in year one with an increase to $3.0 million in year two and $4.0 million annually in the third and following years of the research effort (Table 1). A rapid and effective dissemination of research results to the Regional Rural Development Centers would provide the basis for creative and innovative means to transfer this knowledge.

A Remaining Challenge

The research initiative on agriculture and rural viability offers a new program of research for the future. The initiative becomes the first major effort to understand the effects of long-term and recent transitions that are leading to the transformation of agriculture and rural America.

Indeed, rural America's ability to retain its economic and social base is at risk of being permanently altered. Agricultural technology has changed; agricultural structure has changed; and the economy of agricultural and rural production has changed. Such changes have continued social and economic impacts on the lives of farmers, their families, other rural people, their communities, and citizens of our nation who ultimately depend upon rural production and well-being. But with a scientific understanding through research, agricultural and rural change can be controlled by meaningful public policies.

As we prepare to close the books on the land-grant system's remarkable record of accomplishment during the twentieth century, one great challenge remains. Through research, extension, and instruction, we must improve the viability of agriculture and rural America. And in order to do that, we must first revitalize our research agenda itself.

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